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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/845,685 | 04/30/2001 | Wenhua Lin | LIGHT1920 | 2303 |

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TRAVIS DODD
2490 HEYNEMAN HOLLOW
FALLBROOK, CA 92028

| EXAMINER | |
|---|---|
| SUCHECKI, KRYSTYNA | |
| **ART UNIT** | **PAPER NUMBER** |
| 2882 | |

DATE MAILED: 04/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/845,685 | LIN, WENHUA | |
| | Examiner | Art Unit | |
| | Krystyna Suchecki | 2882 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *23 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1,3-11,14-17,38-50,55 and 56* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1,3-11,14-17 and 44-50* is/are allowed.

6)☒ Claim(s) *38-43,55 and 56* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 02/23/04 has been entered.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 38-43 and 55-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dieckroeger (US 6,167,168) in view of Kulishov (US 6,353,690).

4. Regarding Claim 38, Dieckroeger teaches a filter comprising a light distribution component having an output side (14); a plurality of array waveguides (11) configured to deliver light signals into the light distribution component such that the light signals are incident on the output side of the light distribution component, the lengths of the array waveguides (Column 6, lines 33-58) selected such that light signals of different wavelengths are incident on the output side at different locations (items 12 and Column 7, lines 9-18); and a common effective length tuner configured to change the effective length of a plurality of the array waveguides such that

the locations where the light signals are incident on the output side of the light distribution component change, the effective length tuner including a first electrical contact (Figure 2, 21) positioned over a plurality of the array waveguides.

5. Dieckroeger fails to teach a second electrical contact positioned under a plurality of the array waveguides.

6. Kulishov teaches a filter (Column 2, lines 57-67) having a common effective length tuner (A) configured to change the locations where the light signals are incident on the output side of the light distribution component (Figure 9a), the effective length tuner including a first electrical contact (A1) positioned over a plurality of the array waveguides and a second electrical contact (B1) positioned under a plurality of the array waveguides. The electrode configuration alters the electrooptic structure such that the structure has enhanced refractive index adjustability via greater control of the voltages applied to the device (Abstract). This, in turn, leads to greater control over the location of light incidence such that the incidence includes at least three states (Column 8, lines 22-35).

7. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the electrode structure of Kulishov in the device of Dieckroeger so that a second electrical contact is positioned under a plurality of the array waveguides to compliment the upper electrical contact in order to provide enhanced refractive index adjustability via greater control of the voltages applied to the device (Kulishov, Abstract) to in turn lead to greater control over the location of light incidence such that the incidence includes at least three states (Kulishov, Column 8, lines 22-35).

8. Regarding Claim 39, Dieckroeger in view of Kulishov teaches the filter of claim 38, wherein the array waveguides (11) are defined in a light transmitting medium (3) positioned on a base (4) and the first electrical contact (21) extends over a portion of the light transmitting medium positioned between adjacent array waveguides.

9. Regarding Claim 40, Dieckroeger in view of Kulishov teaches a filter wherein the first electrical contact (21) extends over a portion of the filter positioned between adjacent array waveguides (Figure 2).

10. Regarding Claim 41, Dieckroeger in view of Kulishov teaches a filter wherein the first electrical contact (21) or the second electrical contact (21') has a wedge shape (Figure 1 and Column 7, lines 63-64).

11. Regarding Claim 42, Dieckroeger in view of Kulishov teaches a filter wherein the first electrical contact (21) and the second electrical contact (21') have a wedge shape (Figure 1 and Column 7, lines 63-64).

12. Regarding Claim 43, Dieckroeger in view of Kulishov teaches a filter wherein at least one side of the first electrical contact (21) has a stair step pattern (Figure 1).

13. Regarding Claim 55, Dieckroeger in view of Kulishov teaches a filter wherein each of the array waveguides has a different length (Column 6, lines 33-58).

14. Regarding Claim 56, Dieckroeger in view of Kulishov teaches a filter wherein the difference in the length of the adjacent array waveguides is a constant (Column 6, lines 33-58).

***Allowable Subject Matter***

15. The indicated allowability of claims 38-43 and 55-56 is withdrawn in view of the newly discovered reference(s) to Dieckroeger and Kulishov. Rejections based on the newly cited reference(s) are shown above.

16. Claims 1, 3-11, 14-17 and 44-50 are allowed.

17. The following is a statement of reasons for the indication of allowable subject matter: Claim 1 contains allowable subject matter for at least the reason that the prior art of record fails to teach or reasonably suggest a filter comprising a groove having a material in the groove being located over a base and between different regions of a light transmitting region as claimed. Claims 3-11, 14-17 and 44-50 are allowable at least by virtue of their dependency.

18. While art such as Kawachi (US 4,900,112) teaches a light distribution component, a plurality of waveguides, a groove extending into a slab and effective length tuners (Figure 5b), Kawachi fails to teach a material in the groove as claimed in the instant application.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krystyna Suchecki whose telephone number is (571) 272-2495. The examiner can normally be reached on regular working days and hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Glick can be reached on (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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EDWARD J. GLICK
SUPERVISORY PATENT EXAMINER